

# The Impact of the Current Defense Build-down

by *Ronnie Lowenstein and Richard Peach*

For the third time since the end of World War II, the United States is engaged in a long-term defense build-down. Through fiscal 1992, real defense outlays have been reduced by 11 percent from their 1987 level, a decline equal to 1.1 percent of real GDP. Under the Bush Administration's fiscal 1993 budget submission to the Congress, real defense outlays would continue to decline through fiscal 1997, producing cumulative reductions of 28 percent or \$80 billion in 1987 dollars. Under this scenario, real defense spending would decline from 6.3 percent of GDP in 1987 to 3.6 percent by 1997, the lowest share of total output in the entire post-World War II period.

Considerably deeper cuts have been advocated and cannot be ruled out. For example, the fiscal 1993 defense appropriations approved by Congress provide defense budget authority of \$274 billion, \$7 billion less than originally requested by the President. Pressure for cutting defense spending will likely intensify during the fiscal 1994 budget cycle as the discretionary spending caps of the Budget Enforcement Act of 1990 become more binding while the "fire wall" between defense and nondefense discretionary spending is removed.

In the long run, the economy is likely to benefit from lower defense spending as resources are released for more productive uses. However, considerable short-run pain will accompany the transition. Since 1987, employment in defense-related industries has declined by roughly 440,000, while the number of active duty military personnel has fallen by 300,000 and Department of Defense civilian employees have declined by 100,000. These workers, many of whom had high-skill, high-

wage jobs, are being displaced into a relatively weak labor market.

This article provides a broad overview of the current defense build-down.<sup>1</sup> In the first section, aggregate statistics are used to compare this build-down with earlier build-downs of the post-World War II period. The second section assesses the size of the "peace dividend"; the third considers the contribution of the build-down to the current lackluster state of the economy. Finally, regional and industry-level effects are reviewed.

## **The current defense build-down in perspective**

Since the build-down following the end of World War II, U.S. defense spending has gone through three long cycles associated with the Korean War, the Vietnam War, and the Carter-Reagan defense buildup, hereafter termed the "Cold War" (Chart 1). The build-down phase of the Cold War cycle began with the passage of the Balanced Budget and Emergency Deficit Control Act of 1985 (Gramm-Rudman-Hollings I). But it was not until fiscal 1987 that actual real defense outlays as a percent of GDP peaked and the reversal got under way.<sup>2</sup> By fiscal 1997 real defense outlays are likely to be 28 to 38 percent below the 1987 level, while total defense-

<sup>1</sup>Much of the background work for this article was done by Ethan Harris, Paul Ludwig, and Cynthia Silverio.

<sup>2</sup>In this article, fiscal 1987 is the peak in the Cold War defense spending cycle because constant dollar defense outlays (measured on a unified budget basis) as a percent of real GDP peaked in that year. However, the absolute level of constant dollar defense outlays peaked in fiscal 1989.

related employment is expected to decline by 2.0 million to 2.6 million. Although large in absolute terms, the Cold War defense build-down has been and is expected to continue to be considerably smaller as a percentage of GDP and as a percentage of total employment than both the Korean War build-down and the Vietnam War build-down. However, for reasons discussed below, the absolute decline in employment in the private sector defense industry is expected to be comparable to that which occurred during the Vietnam War build-down.

Table 1 provides data on real defense outlays and total defense-related employment for the current and previous two build-downs.<sup>3</sup> For the current build-down, information is presented to date and projected through 1997. The projections are based on two scenarios that we assume to be the likely upper and lower bounds of

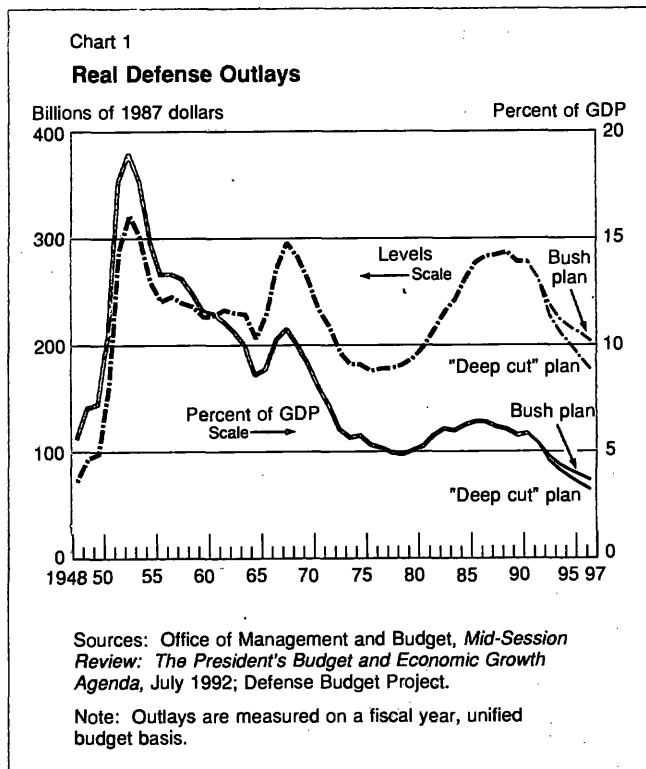
<sup>3</sup>Total defense-related employment consists of active duty military personnel, including full-time reserves and national guard; civilian employees of the Department of Defense (DoD); and defense industry employees as defined by the DoD. The DoD series on defense industry employment covers employment devoted to fulfilling direct and indirect DoD contracts (prime contractors and subcontractors) in all industries that have such contracts. The DoD series is broader in scope than the defense-related employment series published by the Bureau of Labor Statistics because the latter series covers only industries in which defense-related production represents 50 percent or more of total output.

defense spending over the next five years. The upper bound (lower defense cuts) is the path proposed in the Bush Administration's fiscal 1993 budget. Under that scenario, real defense outlays decline a cumulative 28 percent from fiscal 1987 to fiscal 1997 and represent 3.6 percent of real GDP at the end of that period. The lower bound (greater defense cuts) is the "deep cut" plan compiled (but not specifically endorsed) by the nonpartisan Defense Budget Project.<sup>4</sup> Under that scenario, real defense outlays are reduced a total of 38 percent and represent 3.1 percent of GDP by fiscal 1997. The decline in total defense-related employment over the fiscal 1987-97 period also varies with the scenario: 2.0 million under the Bush plan and 2.6 million under the deep cut plan.

To date, the Cold War build-down has been quite modest. Through fiscal 1992, real defense outlays are down 11 percent, or 1.1 percent of GDP, while total defense-related employment is down 12.8 percent, or 1.1 percent of total nonagricultural employment. Five years into the Vietnam War build-down, defense outlays were down the equivalent of 4.7 percent of GDP and the decline in defense employment equaled 5.0 percent of total employment. For the first five years of the Korean War build-down, comparable figures were 5.9 percent and 5.3 percent, respectively.

Assuming that fiscal 1997 is the trough of the current build-down, the total peak-to-trough decline in defense outlays is expected to be in the range of 28 to 38 percent, compared with an average of 38 percent for the previous two build-downs. But because of a secular decline in the importance of defense spending to the U.S. economy, the projected declines in defense outlays represent just 2¾ to 3¼ percent of GDP, compared with 5.9 percent after the Vietnam War and 10.5 percent after the Korean War. A comparably smaller effect prevails for total defense-related employment.

While relatively smaller, the aggregate statistics may understate the difficulty of the current adjustment to lower defense spending. The Cold War build-down has been oriented more toward reducing the procurement of weapons produced by private sector defense contractors than toward decreasing troop strength. As shown in Chart 2, from fiscal 1987 to fiscal 1997, procurement outlays are expected to decline by about \$38 billion in constant dollars, accounting for nearly half of the total decline in defense spending; thus far, most of the reduction in defense outlays has occurred in procure-



<sup>4</sup>The "deep cut" option is a compilation of numerous defense spending proposals advanced by members of Congress and private groups, many of which advocate even greater reductions of defense outlays. The Defense Budget Project, a nonpartisan, privately-funded research group, does not endorse any specific defense spending proposals.

ment. This decline in procurement spending is similar to the one during the Vietnam War build-down.<sup>5</sup> Reflecting the fall in procurement spending, defense industry employment will decline substantially over the fiscal 1987-97 period. Although this decline in defense industry employment is smaller than that during the Korean War build-down, it is roughly comparable in size to that during the Vietnam War build-down (Table 2).

#### The peace dividend

The Cold War build-down will free a substantial amount of resources that can be applied to other public and private pursuits. The size of the "peace dividend" is not an unambiguous issue, however; it depends on what baseline and what prospective cuts one assumes. Shown in Chart 3 are the peace dividends resulting from the three post-World War II build-downs, calculated as the difference between peak year and trough year defense outlays measured in constant dollars and as a percent of real GDP. In constant dollar terms the

<sup>5</sup>Comparable data for the Korean War build-down (1953-65) are unavailable.

Cold War dividend ranges from \$80 billion under the Bush plan to \$107 billion under the deep cut plan. The analogous amounts following the Korean and Vietnam Wars were \$116 billion and \$114 billion, respectively. As noted above, while roughly comparable in dollar terms, the projected Cold War peace dividend is expected to be only about 2¾ to 3¼ percent of GDP, compared with 10.5 percent after the Korean War and 5.9 percent after the Vietnam War. With the federal deficit currently at nearly 5 percent of GDP, the peace dividend would be only a partial solution to our deficit problem even if the entire amount were applied to that purpose.

#### The cyclical impacts of the build-downs

All three defense build-downs have coincided with periods of relatively slow overall economic growth during which the economy slipped into recession. While steep cuts in defense outlays have contributed significantly to slowdowns in the past, that does not appear to be the case during the current build-down. By a quirk of fate, defense spending was a modest plus for the economy during the recession from 1990-III to 1991-I. And

Table 1

### Major Periods of Decline in Defense Spending and Employment

	Real Defense Spending† (Billions of 1987 Dollars)	Share of Real GDP (Percent)	Total Defense-related Employment (Thousands)	Share of Total Nonagricultural Employment (Percent)
<b>Korean War build-down</b>				
1953	322.1	19.0	8,977	17.9
1958	239.7	13.1	6,469	12.6
1965	206.5	8.5	5,767	9.4
Percent drop 1953-65	-35.9	-10.5*	-35.8	-8.5*
<b>Vietnam War build-down</b>				
1968	295.8	10.7	7,955	11.6
1973	194.0	6.0	5,100	6.6
1979	181.6	4.8	4,807	5.3
Percent drop 1968-79	-38.6	-5.9*	-39.6	-6.3*
<b>Cold War build-down</b>				
To date:				
1987	283.1	6.3	6,657	6.5
1992	252.1	5.2	5,802	5.4
Percent drop 1987-92	-11.0	-1.1*	-12.8	-1.1*
Projected:				
Bush plan 1997	203.3	3.6	4,650	3.9
Percent drop 1987-97	-28.2	-2.7*	-30.1	-2.6*
Deep cut plan 1997	176.6	3.1	4,040	3.3
Percent drop 1987-97	-37.6	-3.2*	-39.3	-3.2*

Sources: Federal Reserve Bank of New York; Defense Budget Project; U.S. Department of Defense; Office of Management and Budget, *Mid-Session Review: The President's Budget and Economic Growth Agenda*, July 1992.

Note: All years shown are fiscal years.

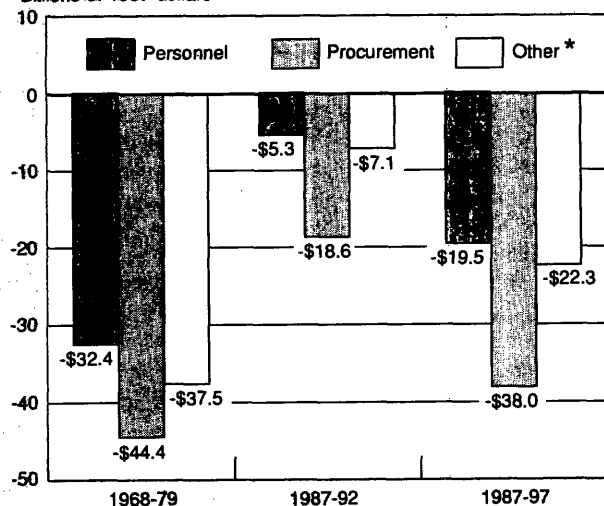
†As measured on a unified budget basis.

\*Percentage point decline.

Chart 2

**Changes in Constant Dollar Defense Outlays by Category**

Billions of 1987 dollars



Source: *Budget of the United States Government*, fiscal year 1993.

Note: Estimates for fiscal years 1992-97 assume the enactment of the Bush fiscal year 1993 budget plan.

\* "Other" comprises operations and maintenance, research and development, military construction, family housing, atomic energy defense activities, and all other defense activities.

available evidence suggests that the decline in defense outlays since fiscal 1987 has played only a minor role in the below-potential growth that has prevailed since 1989.

During the Korean War build-down, a recession lasting three quarters began in the final quarter of 1953, followed by a slow recovery and another three-quarter recession beginning in late 1957. During the Vietnam War build-down, the economy was in recession from the end of 1969 to the end of 1970 and then again from late 1973 through early 1975. Table 3 presents the contribution of real defense spending to overall economic growth around the troughs of these and other business cycles since the end of World War II.<sup>6</sup> (We consider 1991-1 the trough of the most recent recession. The brief and unusual downturn of 1980 is omitted.) During the four quarters up to and including the trough quarter, real defense outlays sometimes contributed to and sometimes offset declines elsewhere in the economy. The largest negative contributions occurred during the 1953-54 recession—minus 1.9 percentage points—and during the 1970 recession—minus 1.1 percentage points. Both of these recessions occurred during the first five years of the previous two build-downs. On average, real defense spending subtracted 0.3 percentage points from growth during the previous seven

<sup>6</sup>The contribution-to-growth measures referred to in this section represent the direct contribution of changes in defense spending to overall economic growth. The indirect or multiplier effects are not included.

Table 2

**Declines in Defense-related Employment during Defense Build-downs**

	1953-65	1968-79	1987-97 <sup>†</sup>	Memo: 1987-92
Total defense-related employment (thousands)	3,210	3,148	2,007	855
Percent of total change	100.0	100.0	100.0	100.0
Defense industry employment (thousands)	1,993	1,314	1,171	440
Percent of total change	62.1	41.7	58.3	51.5
Troop strength and Department of Defense civilian employees (thousands)*	1,217	1,834	836	415
Percent of total change	37.9	58.3	41.7	48.5

Sources: Federal Reserve Bank of New York; Defense Budget Project; U.S. Department of Defense; Office of Management and Budget, *Mid-Session Review: The President's Budget and Economic Growth Agenda*, July 1992.

Note: All years shown are fiscal years.

<sup>†</sup>Estimate for 1987-97 is based on the Bush plan.

\*Troops include full-time reserves and the national guard. Department of Defense civilian employees are a direct hire work force that includes both U.S. and foreign nationals.

recessions. During the most recent recession, defense spending was actually a small plus for the economy because of the temporary upturn in defense outlays associated with the conflict in the Persian Gulf.

During the recovery period from 1991-I to 1992-II defense spending *reduced* real GDP growth by 0.5 percentage points. During the five quarters after the trough of past business cycles, defense outlays *contributed* an average of 0.4 percentage points to growth.

The current defense build-down is often cited as one

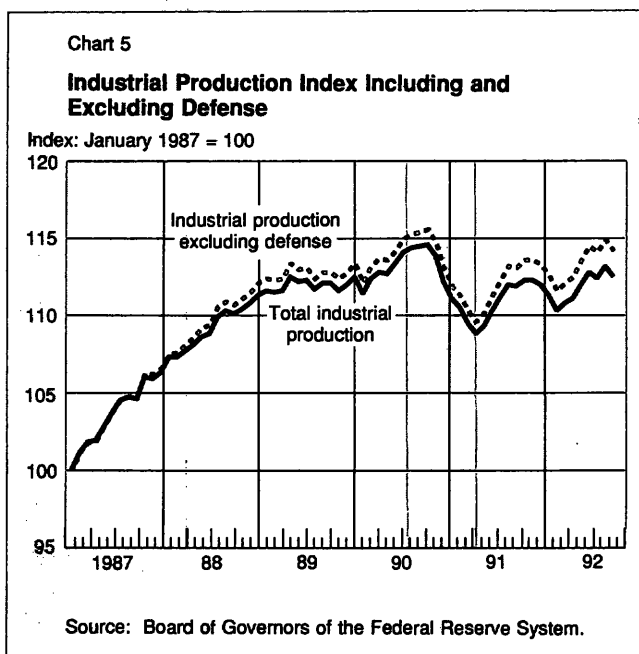
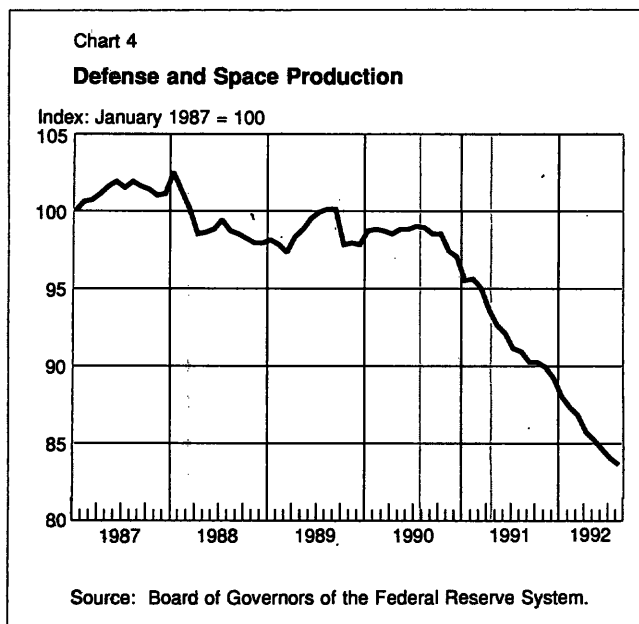
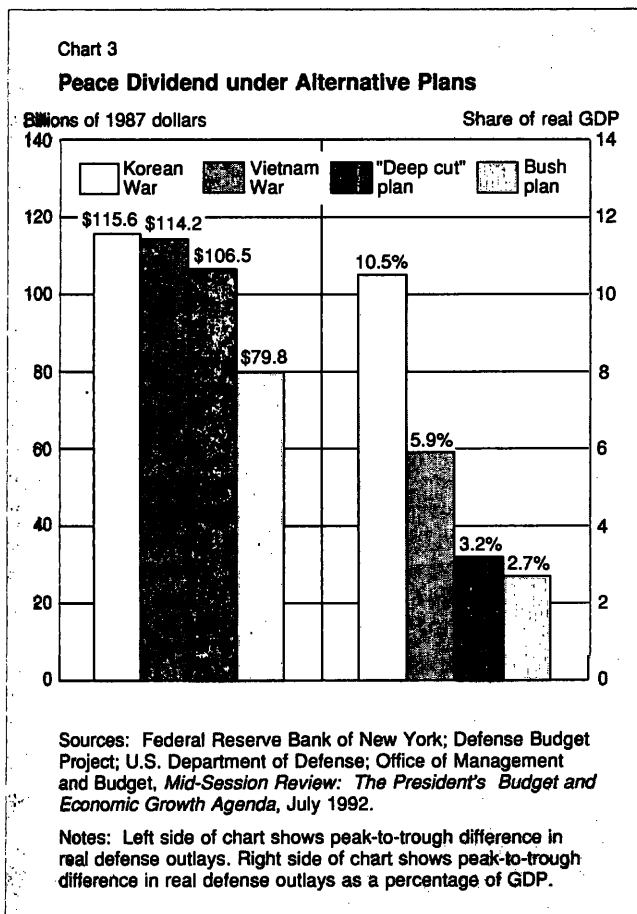


Table 3

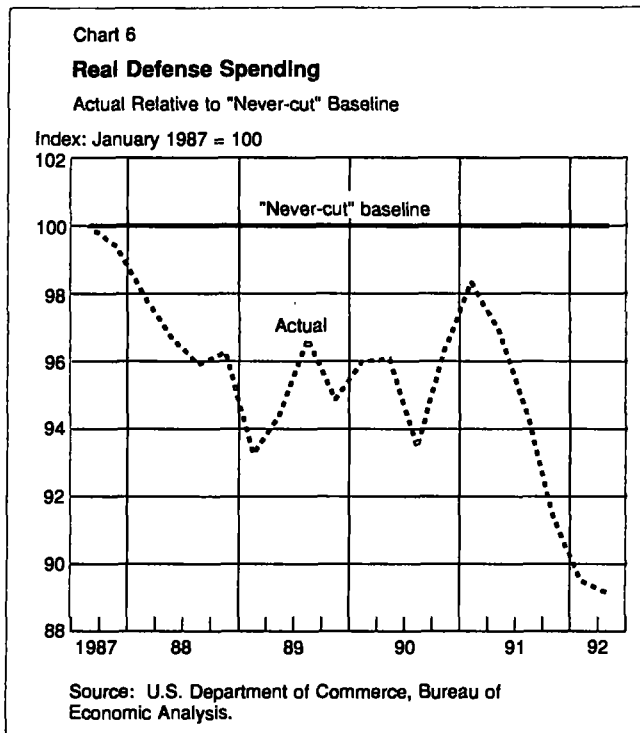
**Contribution of Real Defense Spending to Real GDP Changes around Cyclical Troughs**

Date of Recession's Trough	Four Quarters to Trough Quarter	Five Quarters after Trough Quarter
1949-IV	0.1	4.2
1954-II	-1.9	-1.2
1958-II	-0.1	-0.7
1961-I	0.2	0.6
1970-IV	-1.1	-0.5
1975-I	0.0	-0.1
1982-IV	0.5	0.3
Average	-0.3	0.4
1991-I	0.1	-0.5

of the structural impediments that has restrained growth since 1989. As Chart 4 indicates, production of defense-related goods has been on a downward trend since 1987, with a particularly steep drop since mid-1990. The recent pattern of overall industrial production, however, is essentially the same whether defense is included or excluded (Chart 5).

To assess more fully the contribution of defense spending to the current state of the economy, we used an econometric model to construct a "never-cut" baseline for the period from fiscal 1987 to fiscal 1992.<sup>7</sup> Under this baseline, real defense outlays are maintained at their 1987-III level. Chart 6 presents the actual path of real defense outlays relative to this never-cut baseline. From 1987-III to 1989-I, real defense outlays declined a little over 6 percent. However, from 1989-I to 1990-III, defense outlays held steady at between 4 and 6 percent below the baseline level. Then, in response to events in the Persian Gulf, outlays from 1990-III to 1991-I increased to just 2 percent under the baseline. Thereafter, defense spending declined sharply, to about 89

<sup>7</sup>The Data Resources Inc. model was used to create this historical simulation. In addition to keeping real defense outlays at the 1987-III level, we assumed monetary policy to be neutral by holding M2 at actual levels. The additional defense spending was assumed to be financed with additional government borrowing.



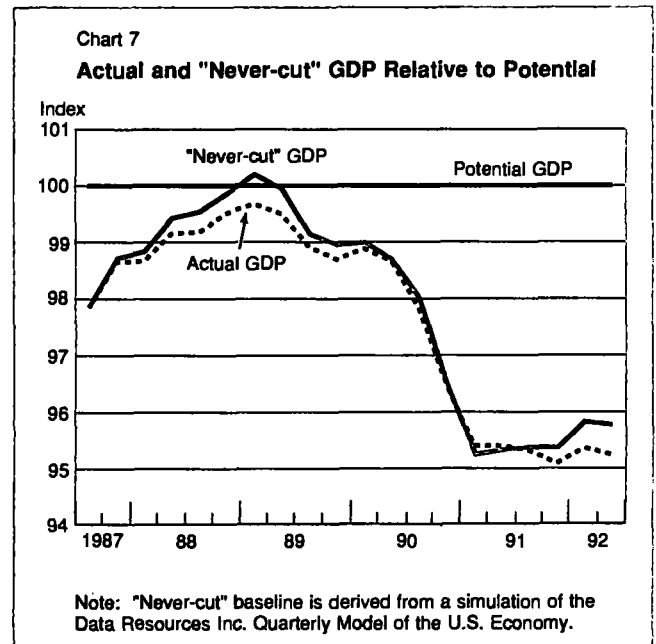
percent of the baseline level by 1992-II.

Chart 7 presents the actual and never-cut baseline levels of real GDP relative to potential GDP over this period. These results suggest that through 1989 the cuts in defense spending depressed the level of real GDP by only modest amounts. During 1990 and the first half of 1991, the upturn in defense spending stimulated the economy, with actual GDP equal to or slightly above the baseline. By 1992-II actual GDP is just one-half of 1 percent below the baseline. Of the 5 percent cumulative gap between actual and potential GDP by 1992-II, only about 10 percent is explained by the defense build-down.

### Regional and industry-level effects

Although the macroeconomic impact of the defense build-down is relatively modest, the concentration of defense employment and output in a relatively small number of states and industries will make the microeconomic transition more difficult. Just ten states, located primarily in the Northeast and Far West regions, account for nearly 60 percent of all defense industry employment (Table 4).<sup>8</sup> A state's defense employment in absolute terms is not necessarily a good measure of its economic dependence on defense, however. The more diversified and the larger a state's economy, the lower its defense employment as a share of total state employment. Of the ten states with the most defense

<sup>8</sup>The analysis does not include Department of Defense personnel.



industry employment, only four—Connecticut, Virginia, Massachusetts, and California—have economies that depend heavily on defense.

Not surprisingly, the largest labor force effects of defense cuts occur in those states with the largest defense output.<sup>9</sup> California has experienced the greatest defense employment declines, losing roughly 75,000 defense jobs between fiscal 1988 and fiscal 1992. Under the Bush fiscal 1993 budget, California is projected to lose 38,300 additional defense jobs in fiscal 1993 and a total of 124,000 defense jobs over the next five years.<sup>10</sup> Job losses under the deep cut option would be roughly 38 percent greater, amounting to a total of about 171,000 defense jobs over the next five years.

Defense production in California is concentrated in the aerospace, electronics, and communications industries. The manufacture of aircraft and missiles, includ-

ing engines and parts, accounted for nearly half of the dollar value of fiscal 1991 prime contracts awarded in California.<sup>11</sup> California's missile industry, which depends on domestic defense for 80 percent of its sales, has been particularly hard hit. Although California's aircraft industries are less heavily defense-dependent, relying on the Pentagon for roughly 60 percent of sales, strong growth in civilian and foreign defense demand has not been sufficient to offset declining sales to the Pentagon. California's communications and electronics industries have fared better thus far in the build-down, in part because defense makes up only 36 percent and 23 percent, respectively, of these industries' sales nationwide (Table 5). Moreover, the emphasis of recent Pentagon budgets on developing new weapons and upgrading existing systems has meant that defense demand for communications and electronics equipment has not fallen as steeply as defense demand for other procurement categories.

The list of the most severely affected states changes when defense industry declines are considered relative to the size of each state's economy (Table 6). Under this criterion, Connecticut suffered the worst declines, losing 1.3 percent of total employment between fiscal 1988 and fiscal 1992. Defense industry cuts cost Massachusetts and Missouri each 0.9 percent of employment over the same period. Connecticut remains the most heavily

<sup>9</sup>Our estimates of defense industry employment declines for fiscal years 1988-91 are based on the distribution of prime contract awards. Projections for fiscal 1992 and beyond are by the Defense Budget Project and are based on the assumption that cuts in any one category of defense spending will affect each state in proportion to its employment in that category. In reality, of course, the impact of reduced defense spending on each state will depend on the specific programs and facilities cut.

<sup>10</sup>The largest labor market effects for all states under either the current budget or the deep cut option are projected to occur in fiscal 1993. The severity of the fiscal 1993 effects is due in part to the winding down of outlays associated with Operation Desert Storm.

<sup>11</sup>State of California, Commission on State Finance, "Impact of Defense Cuts on California," Fall 1992.

Table 4

**Defense Industry Employment Declines:  
States with Largest Cuts in Absolute Terms**

Thousands of Employees

State	Total Fiscal 1992 Defense Employment	Cumulative Cuts Fiscal 1988-92	Bush Fiscal 1993 Budget		Deep Cut Option	
			Fiscal 1993 Cuts†	Cumulative Cuts Fiscal 1993-97	Fiscal 1993 Cuts†	Cumulative Cuts Fiscal 1993-97
California	543.6	75.0	38.3	123.9	58.8	170.7
Texas	190.3	31.8	20.8	49.9	25.6	66.4
New York	171.4	29.5	17.4	45.2	21.9	60.3
Virginia	147.2	23.3	18.6	40.2	22.5	52.8
Massachusetts	130.9	25.8	10.8	32.2	15.1	43.7
Ohio	123.3	19.4	13.0	32.3	16.2	43.2
Pennsylvania	115.2	15.1	12.2	30.3	15.4	40.1
Florida	112.0	18.1	10.7	28.4	13.9	38.0
Connecticut	90.0	19.8	10.8	25.7	12.5	33.8
New Jersey	88.1	13.3	9.4	23.1	11.9	30.8
U.S. total	2,924.7	440.3	278.9	730.8	362.7	983.2

Notes: Figures do not include Department of Defense military or civilian employees. The effects of past cuts by state are authors' estimates and are based on three-year moving averages of prime contract awards. Other estimates are from Conrad Schmidt and Steven Kosiak, *Potential Impact of Defense Spending Reductions on the Defense Industrial Labor Force by State*, Defense Budget Project, March 1992.

†The largest labor force effects for all states, under both the Bush fiscal 1993 budget and the deep cut option, are projected to occur in fiscal 1993.

affected state under both the Bush fiscal 1993 budget and the deep cut options, losing 1.7 percent and 2.3 percent of total employment, respectively, between fiscal years 1993 and 1997.

Connecticut's defense manufacturing sector is concentrated in the shipbuilding and aerospace industries

and is dominated by defense industry giants General Dynamics and United Technologies. General Dynamics' production of submarines at its Electric Boat Division in Groton has been hurt particularly badly by the build-down. The last Trident submarine produced by Electric Boat was funded in 1991, while those planned for 1992 and

Table 5

**Industries with Largest Defense Output: 1990**

Industry	Defense Output (Millions of 1982 Dollars)	Total Industry Output (Millions of 1982 Dollars)	Defense Share of Industry Output (Percent)
Radio, television and communications equipment	23,641.0	66,140.0	35.7
Aircraft†	11,659.1	26,360.6	44.2
Crude petroleum	8,389.3	93,571.6	9.0
Business services	16,062.4	499,037.8	3.2
Shipbuilding and repair	10,060.3	10,213.5	98.5
Guided missiles and space vehicles	9,487.3	10,533.6	90.1
Aircraft and missile parts and equipment	9,195.7	18,749.7	49.0
Ordnance and accessories	9,002.1	12,870.6	69.9
Electronic components and accessories	8,387.4	36,390.7	23.0
Aircraft and missile engines and engine parts	7,507.3	17,365.3	43.2
Total of above	113,391.9	791,233.4	14.3
U.S. total	239,212.1	6,906,847.5	3.5

Source: David Henry, *Industrial Output Effects of Planned Defense Spending: 1990-1994*, U.S. Department of Commerce, February 1991.

†Excludes engines and parts.

Table 6

**Defense Industry Employment Declines:  
States with Largest Cuts as a Percentage of Fiscal 1992 State Employment**

State	Total Fiscal 1992 Defense Employment	Cumulative Cuts Fiscal 1988-92	Bush Fiscal 1993 Budget		Deep Cut Option	
			Fiscal 1993 Cuts	Cumulative Cuts Fiscal 1993-97	Fiscal 1993 Cuts	Cumulative Cuts Fiscal 1993-97
Connecticut	6.0	1.3	0.7	1.7	0.8	2.3
Virginia	5.3	0.8	0.7	1.4	0.8	1.9
Massachusetts	4.8	0.9	0.4	1.2	0.6	1.6
California	4.4	0.6	0.3	1.0	0.5	1.4
Maryland	4.1	0.7	0.5	1.1	0.6	1.4
Washington	3.5	0.4	0.2	0.8	0.4	1.1
Missouri	3.5	0.9	0.4	1.0	0.5	1.3
Colorado	3.3	0.5	0.2	0.7	0.3	1.0
Arizona	3.2	0.7	0.3	0.8	0.4	1.1
Alaska	3.1	0.3	0.2	0.6	0.3	0.8
U.S. total	2.7	0.4	0.3	0.7	0.3	0.9
Memo: New York	2.2	0.4	0.2	0.6	0.3	0.8
New Jersey	2.6	0.4	0.3	0.7	0.4	0.9

Sources: The effects of past cuts are Federal Reserve Bank of New York estimates. Other estimates are from Conrad Schmidt and Steven Kosiak, *Potential Impact of Defense Spending Reductions on the Defense Industrial Labor Force by State*, Defense Budget Project, March 1992.

Note: Total nonagricultural U.S. employment is as of September 1992, while total nonagricultural employment for states is as of July 1992.



1993 have been canceled. Moreover, future procurement of Electric Boat's Seawolf submarine has been cut dramatically. Finally, there is no significant possibility of converting Electric Boat's facilities to commercial production: the U.S. shipbuilding industry no longer has a civilian market for its products.

Several factors combine to make the transition for the hard-hit states relatively difficult. First, the effect of defense cuts on total state employment will be greater than the above figures suggest, because the figures exclude indirect impacts that depend on spending by defense industry employees. One way to illustrate the total impact of defense job losses on a state's economy is to draw a parallel with steel industry declines. The most severely affected states—Pennsylvania, Ohio, Michigan, Indiana, and Illinois—suffered cumulative steel industry job losses of 0.6 to 1.6 percent of state employment between 1979 and 1984. These declines are similar to the job losses forecast for defense-dependent states over the next few years. During the period of sharpest steel industry decline, unemployment in steel-dependent states exceeded the national rate by an average of 2 percentage points—though, of course, one cannot determine precisely how much of the difference reflects the direct and indirect effects of the steel industry decline.

Second, current economic weakness in a number of defense-dependent states—caused in part by past defense industry cutbacks—will make it more difficult for laid-off workers to find new jobs. Unemployment rates in the most heavily defense-dependent states have risen far more rapidly than the rates for the United States as a whole.<sup>12</sup> Finally, the occupational profile of defense industry jobs—well-paying manufacturing employment with an unusually high share of administrative support, professional, and technical workers—suggests that these positions will be particularly difficult for states to replace.<sup>13</sup>

The effect of the build-down on localities could be significantly more severe than the impact at the state level. Regions that rely heavily on defense and have few nondefense industries to provide alternative sources of employment are most vulnerable. Even where other jobs are available locally, they may be a poor match for the skills of former defense workers. Those defense

<sup>12</sup>A recent study by Olivier Blanchard and Lawrence Katz suggests that although the rise in unemployment associated with a negative shock such as the defense build-down will dissipate within five to seven years, employment growth will remain on a permanently lower path ("Regional Evolutions," *Brookings Papers on Economic Activity*, 1992:1, pp. 1-75).

<sup>13</sup>David Henry and Richard Oliver, "The Defense Buildup, 1977-1985: Effects on Production and Labor," *Monthly Labor Review*, August 1987, pp. 3-11.

workers who succeed in finding other local employment must often accept lower wages than they enjoyed in defense manufacturing. The Congressional Budget Office recently used the *hypothetical* closing of the Bath Iron Works in Maine to illustrate one possible worst-case scenario of defense cuts.<sup>14</sup> The 11,000 workers employed by Bath Iron Works, a major shipbuilder for the U.S. Navy, constitute roughly 5 percent of total employment in south coastal Maine. The Congressional Budget Office estimates that the combined direct and indirect impacts of the hypothetical closing of the facility would raise the rate of unemployment along Maine's south coast by as much as 7 percentage points. Moreover, prospects for the reemployment of former defense workers within the region are poor because few alternative sources of local employment use comparable skills or offer comparable pay.

In sum, the concentration of defense spending in a relatively small number of states and industries will make the microeconomic transition to lower defense spending more difficult. The build-down will most severely affect those states that depend heavily on defense, including Connecticut, Virginia, and Massachusetts. In absolute terms, however, California is expected to lose the greatest number of jobs. Similarly, the most defense-dependent industries—including shipbuilding, missiles, and ordnance—are likely to experience declines in both defense and total industry output.

### Conclusion

Although the current defense build-down is large in absolute terms, it is considerably smaller as a percent of GDP and as a percent of total employment than the build-downs after the wars in Korea and Vietnam. That comparison, however, may understate the difficulty of the adjustment. The current build-down is heavily weighted toward procurement, resulting in absolute declines in private sector defense industry employment comparable to those that occurred during the Vietnam War build-down.

Because of its relatively modest proportions, the current build-down will yield a relatively small peace dividend. Therefore, the build-down by itself is likely to provide only a partial solution to our deficit problem, even if the cuts in defense spending are not offset elsewhere in the budget.

The available evidence suggests that, at the national level, the defense build-down to date has played a relatively minor role in the below-potential growth that the U.S. economy has experienced since 1989. How-

<sup>14</sup>Congressional Budget Office, "The Economic Effects of Reduced Defense Spending," February 1992.

ever, the private defense industry tends to be concentrated geographically, with the result that some states are more adversely affected than others. The most severely affected states are those where the defense industry is a significant fraction of the economy, such as

Connecticut, Virginia, and Massachusetts. But a number of other states, led by California, Texas, and New York, continue to experience large absolute declines in defense industry employment.